

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-22 (Cancelled)

Claim 23 (New): A method for assessing the risk of drug-induced granulocytopenia comprising:

detecting in a subject in need thereof at least one polynucleotide polymorphism in the human insulin receptor substrate-2 gene,

wherein the presence of a polymorphism correlates with the risk of drug-induced granulocytopenia;

wherein SEQ ID NO: 19 shows the polynucleotides of a human insulin receptor substrate-2 gene.

Claim 24 (New): The method of claim 23, wherein said at least one polymorphism is:

(e) a polymorphism that is A (wild type) to G conversion at position 47,315 of SEQ ID NO: 19.

Claim 25 (New): The method of claim 23, wherein the genetic polymorphism is detected through at least one technique selected from the group consisting of allele-specific oligonucleotide (ASO)-dot blot analysis, single nucleotide primer extension assay, PCR-single strand conformation polymorphism (SSCP) analysis, Invader assay, quantitative real-time PCR assay, and genetic polymorphism assay employing a mass spectrometer (mass array).

Claim 26 (New): The method of claim 23, wherein the genetic polymorphism is detected through direct nucleotide sequencing.

Claim 27 (New): The method of claim 23, wherein the genetic polymorphism is detected through PCR-restriction enzyme fragment length polymorphism (RFLP) analysis.

Claim 28 (New): The method of claim 27, wherein the PCR-restriction enzyme fragment length polymorphism (RFLP) analysis is performed by use of the restriction enzyme *Afa* I for detecting A to G conversion at position 47,315 of SEQ ID NO: 19.

Claim 29 (New): The method of claim 23, which determines the risk of drug-induced granulocytopenia attributed to vesnarinone administration.

Claim 30 (New): The method of claim 23, wherein said polymorphism is identified by a method employing a probe or primer selected from the group consisting of:

(a) an oligonucleotide having a sequence including a genetic polymorphism that is C to A conversion at position 12,936 of SEQ ID NO: 19;

(b) an oligonucleotide having a sequence including a genetic polymorphism that is an AT deletion at positions 15,012-15,013 of SEQ ID NO: 19;

(c) an oligonucleotide having a sequence including a gene polymorphism that is A to C conversion at position 16,359 of SEQ ID NO: 19;

(d) an oligonucleotide having a sequence including a gene polymorphism that is A to G conversion at position of 33,392 of SEQ ID NO: 19;

(e) an oligonucleotide having a sequence including a gene polymorphism that is A to G conversion at position 47,315 of SEQ ID NO: 19; and

(f) an oligonucleotide having a sequence including a genetic polymorphism that is C deletion at positions 49,053 and 49,054 of SEQ ID NO: 19.

Claim 31 (New): The method of claim 30, which is used to determine the risk of drug-induced granulocytopenia attributed to vesnarinone administration

Claim 32 (New): The method of claim 23, wherein said polymorphism is identified by a method employing a probe or primer selected from the group consisting of:

- (a) an oligonucleotide having the sequence of SEQ ID NO: 3;
- (b) an oligonucleotide having the sequence of SEQ ID NO: 6;
- (c) an oligonucleotide having the sequence of SEQ ID NO: 9;
- (d) an oligonucleotide having the sequence of SEQ ID NO: 12; and
- (f) an oligonucleotide having the sequence of SEQ ID NO: 17.

Claim 33 (New): The method of claim 32, which is used to determine the risk of drug-induced granulocytopenia attributed to vesnarinone administration

Claim 34 (New): The method of claim 23, wherein said polymorphism is identified by a method employing a probe or primer having a sequence including a gene polymorphism that is A to G conversion at position 47,315 of SEQ ID NO: 19 and employing the restriction enzyme *Afa* I.

Claim 35 (New): The method of claim 34, which is used to determine the risk of drug-induced granulocytopenia attributed to vesnarinone administration

Application No. 10/563,818
Reply to Office Action mailed June 19, 2008

Claim 36 (New): A method for examination a subject for the risk of developing drug-induced granulocytopenia comprising the method of claim 32.

Claim 37 (New): The method of claim 36, further comprising obtaining a cDNA or genomic DNA sample from said subject.